




# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,691	02/20/2004	Hajime Sekiguchi	00684.003596	3694
5514 7590 07/15/2005 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EXAMINER ROTH, LAURA K	
			ART UNIT 2852	PAPER NUMBER

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/781,691	<b>Applicant(s)</b> SEKIGUCHI ET AL.	
	<b>Examiner</b> Laura K. Roth	<b>Art Unit</b> 2852	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/20/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

### ***Specification***

The disclosure is objected to because of the following informalities: Page 2, Line 17 the phrase "services lives" should be corrected to "**service** lives", page 5, line 8 the phrase "transferred through the in the circuit boards" should be corrected to "transferred through **the** circuit boards", page 11, line 21 the phrase "not only does the duct 5 plays the role" should be corrected to "not only does the duct 5 **play** the role".

Appropriate correction is required.

### ***Claim Objections***

Claims 8, 12, 13, and 18 are objected to because of the following informalities: in Claim 8 the phrase "to exhausting heat" should be corrected to "to **exhaust** heat." Claims 12, 13 & 18 refer to "said partition member" which lacks antecedent basis. Please rephrase said claims to reference "said air flow forming member." Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (US Pat. 6,115,564) in view of Takahashi et al. (US Pat. 4,447,856).

Morimoto (US Pat. 6,115,564) teaches an image forming apparatus (col.2, ln.15), an image forming means (col.2, ln.26-29), a first electrical substrate having an electric circuit for electric power supply (Fig. 1 #33; col.8, ln.2), a second electrical substrate having an electric circuit for sending a signal to said image forming means (Fig. 1 #34; col.8, ln.3), an opening formed above said first electrical substrate in fluid communication with an ambient air (Fig. 9 #30a/30b; col.8, lns. 11+) wherein air is movable between said first electrical substrate and said second electrical substrate (Fig. 1 #33/34), a fan for directing air toward a slanted partition member (col.8, ln.6+).

Morimoto (US Pat. 6,115,564) fails to teach a partition member for partitioning said first electrical substrate and said second electrical substrate and for forming an air flow path or for directing heat from said first electrical substrate to said opening. Morimoto (US Pat. 6,115,564) also fails to teach a partition member that includes a portion substantially inclined upward toward said opening.

Takahashi et al. (US Pat. 4,447,856) teach an opening above a first electrical substrate (Fig.5, #40 & 41), a partition member for partitioning a first electrical substrate from a second electrical substrate and for forming an air flow path from said first electrical substrate to an opening (Fig.4, #13), and a second opening, formed in a lower side of the first electrical substrate, for suction of the ambient air (Fig.4, #24). Takahashi et al. (US Pat. 4,447,856) also teach a partition member that has a portion substantially inclined upward toward the upper opening (Fig.2, #13, also col.3, ln.19-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the apparatus of Morimoto with the partition features

Art Unit: 2852

disclosed by Takahashi et al. (US Pat. 4,447,856) to enable a more efficient cooling system that would extend the operating life of the different electrical substrates.

With respect to claims 6, 7, 15, and 16, Morimoto (US Pat. 6,115,564) teaches a configuration with a circuit for sending a signal to the image forming means as the first electrical substrate and an electric power supply circuit as the second electrical substrate. While this does not directly read on the applicant's claims, the applicant fails to claim a critical need for the claimed configuration and it can be argued that one configuration is synonymous with the other.

Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (US Pat. 6,115,564) in view of Takahashi et al. (US Pat. 4,447,856) as applied to claims 1 and 10 above, and further in view of Setoriyama et al. (US Pat. 6,415,118 B1).

Morimoto (US Pat. 6,115,564) in view of Takahashi et al. (US Pat. 4,447,856) disclose the features mentioned previously, but fail to disclose a partition member or air flow forming member that includes a heat insulation member. Setoriyama et al. teach an image forming apparatus which includes a substantially upwardly inclined partition member formed by an integral molding of plastic material (also considered resinous) for the purpose of the insulation of heat from the electric supply portion ([col.14, ln.65] – [col.15, ln.2]).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the apparatus of Morimoto (US Pat. 6,115,564) with the insulation member disclosed by Setoriyama et al. (US Pat. 6,415,118 B1) to further prevent heat

Art Unit: 2852

transfer between the two electrical substrates and thus further extend the operating life of the different electrical substrates.

Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (US Pat. 6,115,564) in view of Takahashi et al. (US Pat. 4,447,856) as applied to claims 1 and 10, and further in view of Masayoshi (JP 2000-216580 A).

Morimoto (US Pat. 6,115,564) in view of Takahashi et al. (US Pat. 4,447,856) disclose the features mentioned previously, but fail to disclose a duct extending between the partition member and the second electrical substrate to exhaust heat from the image forming means to the ambient air. Masayoshi (JP 2000-216580 A) discloses a duct for exhausting heat from the image forming means to the ambient air that extends past an electrical substrate.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the apparatus of Morimoto (US Pat. 6,115,564) in view of Takahashi et al. (US Pat. 4,447,856) with the duct arrangement of the apparatus disclosed by Masayoshi (JP 2000-216580 A) to create an arrangement like the one disclosed by the applicant that allows the exhausting of heat in such a way that would allow the duct to make use of the same opening used by the partition and also allows a space-efficient arrangement.

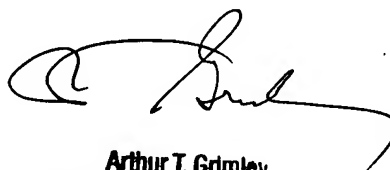
Art Unit: 2852

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura K. Roth whose telephone number is (571)272-2154. The examiner can normally be reached on Monday-Friday, 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571)272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/7/2005  
LKR



Arthur T. Grimley  
Supervisory Patent Examiner  
Technology Center 2800